SAMHSA-HRSA
Center for Integrated Health Solutions

Trend Analysis Using PBHCI Data

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Web Survey – Reminder!

- **Web survey of PBHCI staff is live!**
  - **Links sent earlier this week**
    - **Not everyone will receive a link**
  - **Different versions for different kinds of staff**
  - **Between 1 and 1.5 hours to complete**
- **Please complete ASAP!**
- **Final evaluation report to be completed Sept 30, 2013**

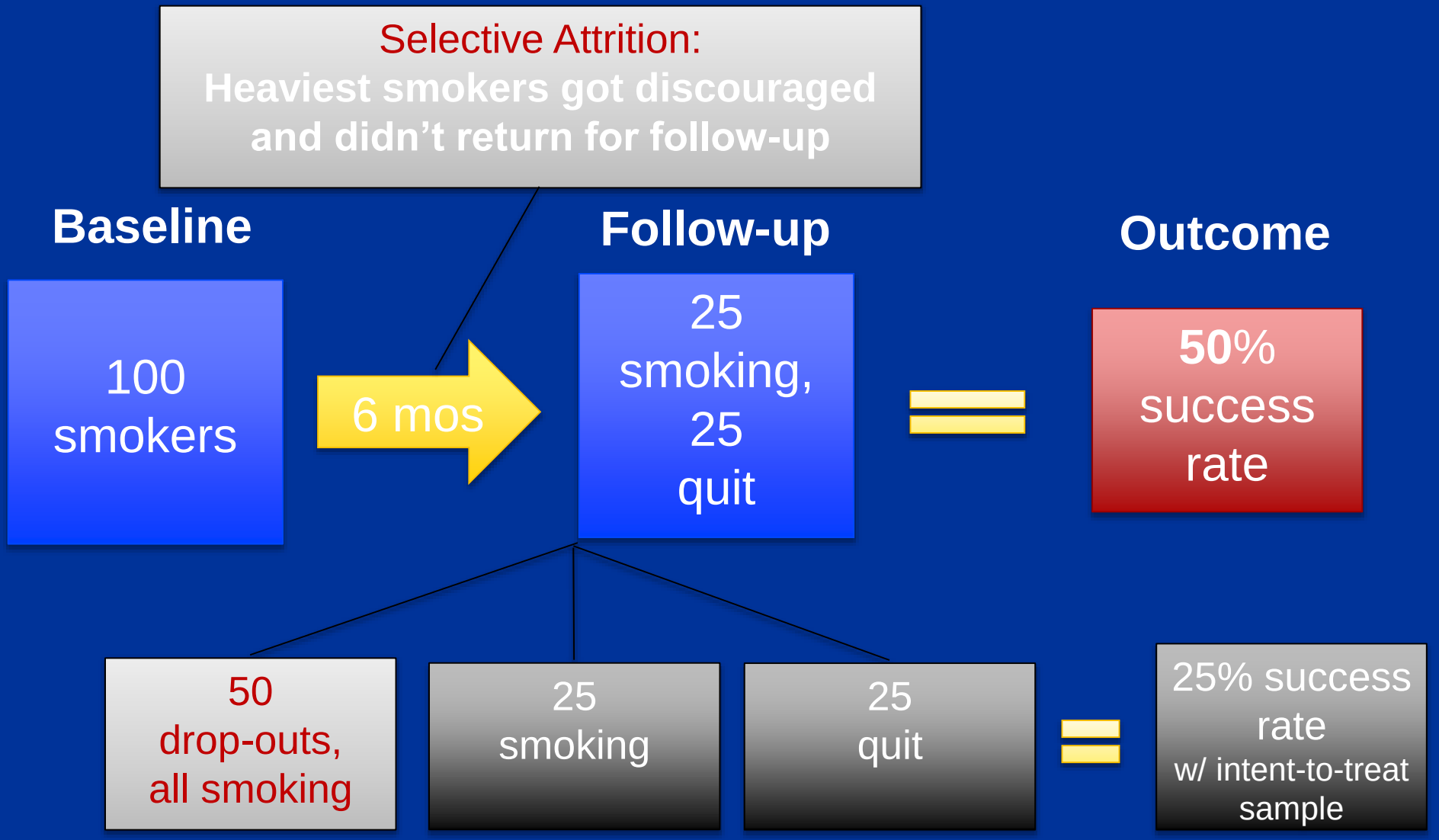
OVERVIEW

- Previous presentations covered use of PBHCI data to describe program performance
- Focus was on ‘static’ analysis
  - How many consumers have received X service?
  - Presented data from the first year of service
- This presentation covers TRENDS
  - Changes in service delivery over time
- Key for performance monitoring and QI

Caution!

- You may already familiar with common pitfalls of outcomes analysis (i.e., analysis of improvement in consumer health, such as before to after treatment)
  - Selective attrition
  - Need for control group
- Same concepts affect trend analysis
  - Including process analysis (i.e., analysis of services provided)
- Let's review….

Selective Attrition: Overestimate Effects



Without Control Group: Overestimate Effects

Selective Attrition:
Heaviest smokers got discouraged and didn't return for follow-up

Baseline

100 consumers smoke

6 mos

Follow-up

25 smoking, 25 quit

Outcome

50% success rate

50 drop-outs, all smoking

25 smoking

25 quit

5% better than no tx

Control Group

100 consumers smoke

6 mos

80 smoking 20 quit

20% success rate

May 2013

Attrition is also a Problem for Trend Analysis

- **We can deal with attrition by carefully defining who is eligible for a particular treatment or procedure in each period of time**
  - **Group of eligible consumers is different for each service**
  - **People leave the pool of eligible consumers**
  - **New people enter into the pool of eligible consumers**
- **Attrition is going to remain a problem because we don't always know exactly when someone has left**

Control Groups also Enhance Trend Analysis

- **Population trends may account for trends in our data**
  - **Maybe smoking is decreasing among all SMI (not because of our treatment)**
  - **These concerns are secondary with respect to process measures (i.e., services you provide)**
- **For QI/Performance monitoring, OK if your clinic is 'its own control'**
  - **You may not be concerned about what is happening elsewhere**
  - **For QI/Performance monitoring, monitor whether you are doing better or worse than before**

WITH THESE CAUTIONS IN MIND…

Why Examine Trends?

1. **Most programs have a 'learning curve'**
   - **i.e. build up to full operating potential over time**
   - **If performance is averaged over time, this information is lost**

2. **Useful to know about performance Right Now**
   - **Are your services improving?**
   - **Are there emerging problems?**

3. **Helps illustrate relationship between program changes and performance**
   - **Changes in procedures; changes in staff**

Type of Trend Analysis Depends on Type of Service

- **One-Time (or very rare) Interventions**
  - **Tetanus Shot**
    - **Recommended every 10 years**

- **Regular Monitoring**
  - **Blood Pressure Measurement**
  - **Glucose or A1C**
  - ***All section H indicators!**

Defining Time Intervals

- **Trend analysis requires careful attention to TIME**
- **People enroll or become diagnosed at different points in time**
  - **They become eligible for services at different points in time**
- **Need to simplify by making clear decisions about who is eligible for services and when**

Defining Time Intervals

- **Choose a start date when a sufficient number of consumers have been enrolled to provide interesting results. For example,**
  - **Day when the 50th consumer was enrolled**
  - **Day when a service was initiated**
- **Choose a time period small enough to show change, but large enough to have a meaningful number of events**
  - **1 month**
  - **6 months**
  - **1 year**

TREND ANALYSIS FOR ONE-TIME INTERVENTIONS

Trend Analysis for One-Time Intervention

- **Question: What proportion of eligible consumers received a tetanus shot?**
- **Approach:**

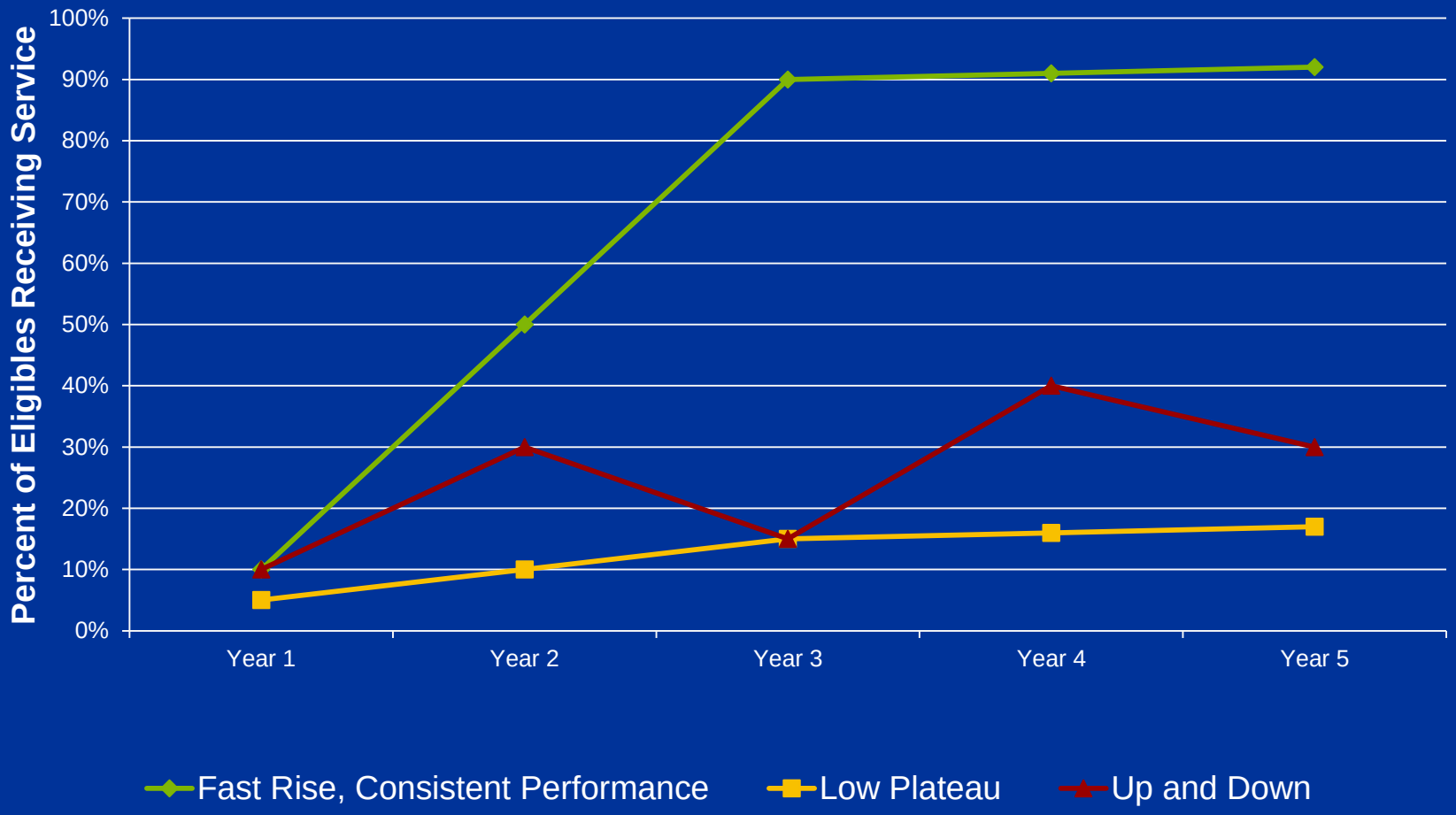
$$\frac{\text{Total \# who received the intervention this time period}}{\text{Total \# eligible for the intervention this time period}}$$

Total consumers who got tetanus shot this year

Total consumers who needed it this year

- **New people who enter the program or become eligible are added for each interval; those who drop-out or stop needing the service become ineligible**

Trend Analysis for One-Time Treatment



One-Time Intervention

- **Summary:**
  - **These data show only the people who need the intervention in that time period**
    - **Not those who have already received it**
  - **Pro: Gives a better sense of what is currently happening**
  - **Con: May be affected by 'hard to reach' group**

TREND ANALYSIS FOR HEALTH MONITORING

Trend Analysis for Monitoring Chronic Health Conditions

- **Use this approach for your section H indicators**
- **All eligible consumers should get the service in each time period, regardless of whether they received it previously or not.**
- **New entrants and the newly eligible should be entered for each time period after becoming eligible.**

Trend Analysis for Health Monitoring

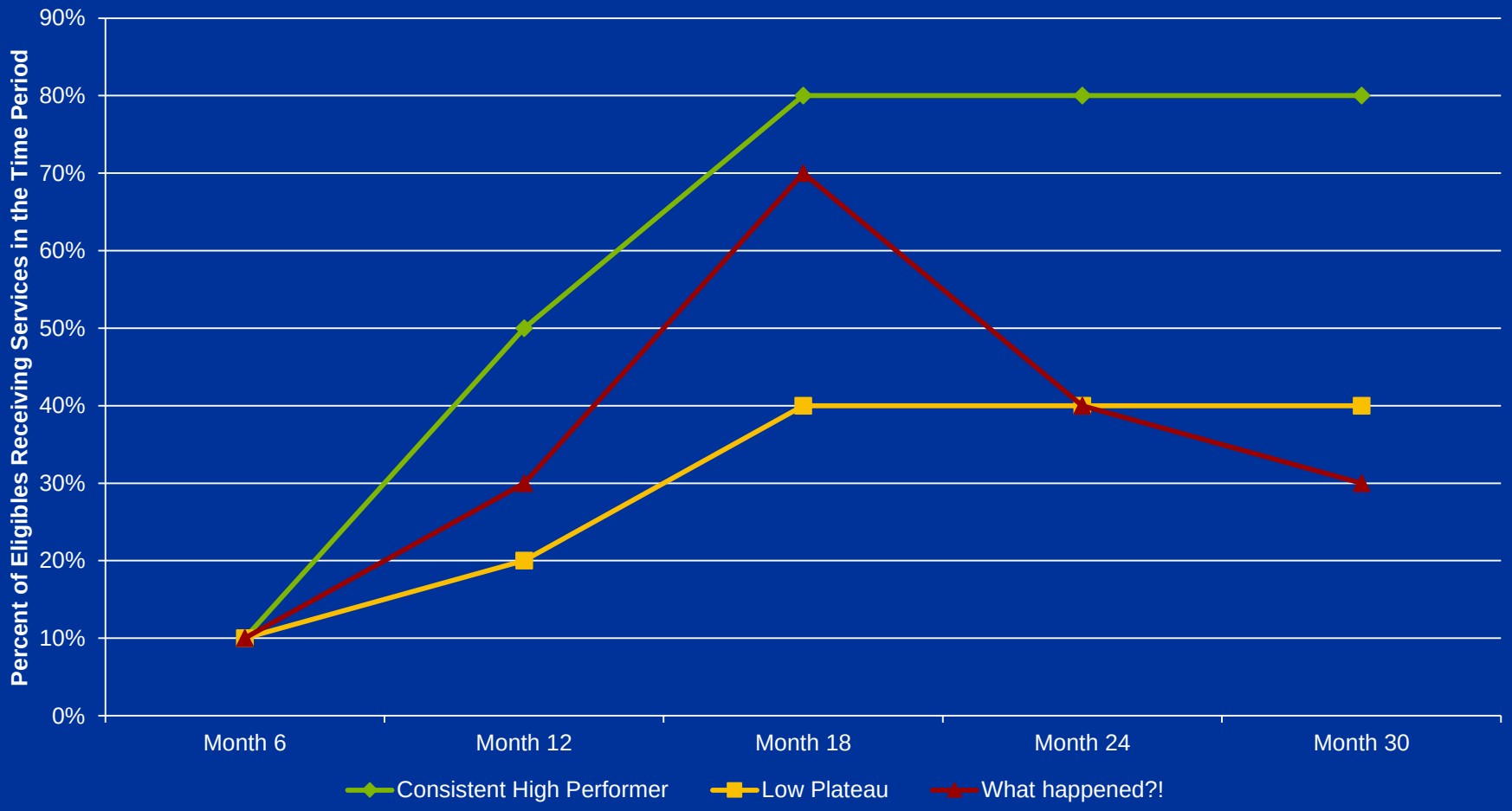
- **Question: What proportion of eligible consumers received required BP monitoring?**

- **Approach:**

$$\frac{\text{Total \# who received the intervention this time period}}{\text{Total \# eligible for the intervention this time period}}$$

- **This is different from one-time treatment analysis because virtually everyone stays eligible to receive more services at each, new time period**

Trend Analysis for Health Monitoring



Poll Question

- **Are you doing trend analysis as a part of your continuous quality improvement work?**
  - **Yes**
  - **No**

POLL QUESTION

- **Are you working with your evaluator to develop ways of using data (e.g., development of dashboards or trending models) that will be sustainable after the grant expires?**
  - **Yes**
  - **It's on my "to do" list**
  - **No**

Example

SMOKING CESSATION AND THE 5 A'S

Your Goal

- **Goal: Increase number of PBHCI consumers who quit smoking**
- **Strategy: Engage more PBHCI consumers in smoking cessation treatment**

Clinical Practice Guidelines Recommend Using the 5 A's

- **Asking all consumers about smoking at <u>every visit</u>**
- **Advising all smokers to quit**
- **Assessing smokers' willingness to try to quit**
- **Assisting smokers to quit with treatment or referrals**
- **Arranging follow-up visits for those attempting to quit**

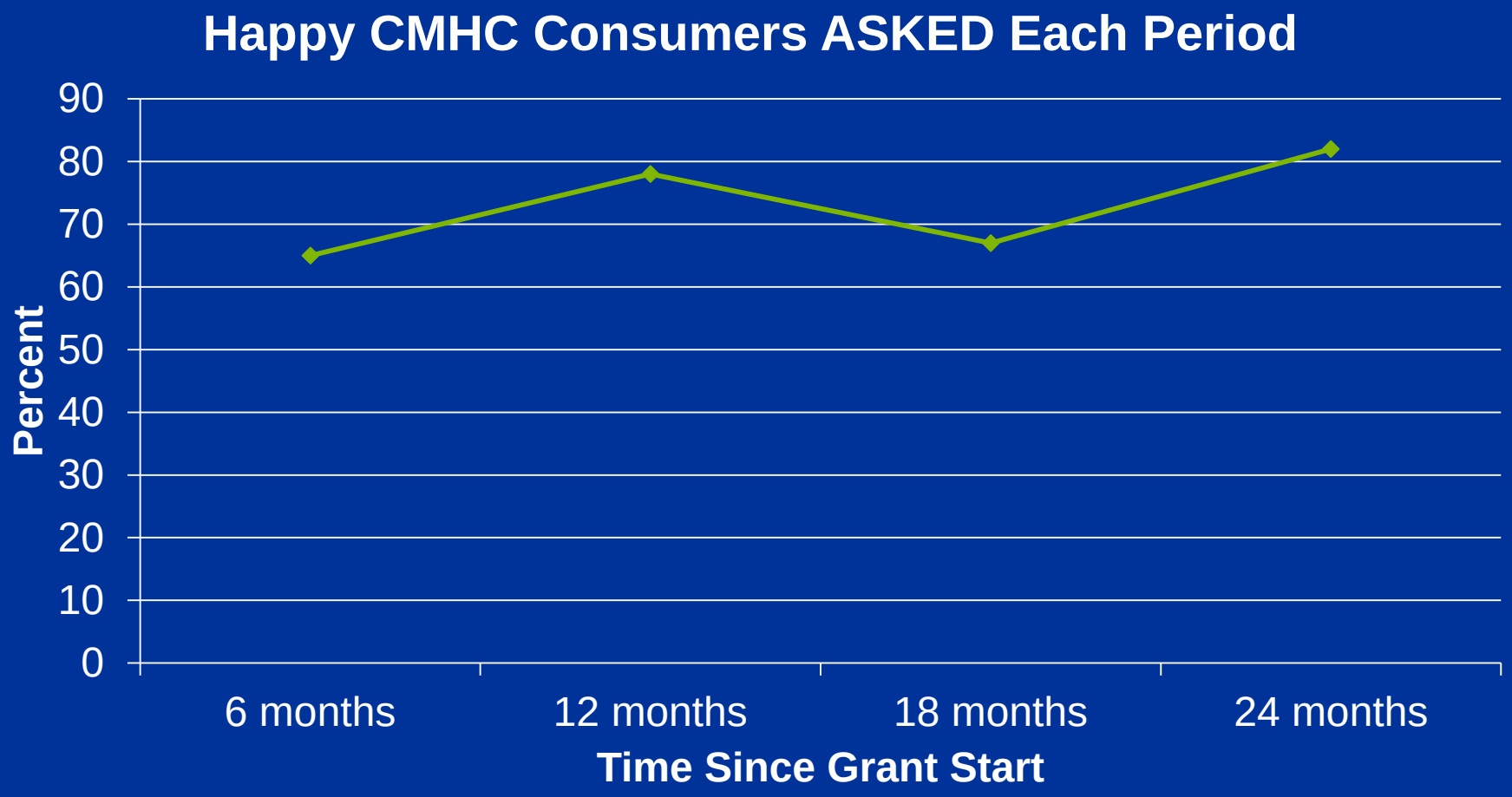
Many opportunities to assess, modify and improve processes

ASKING About Smoking: Trend Analysis Design

- **Who is eligible?**
  - **i.e., who should be asked about smoking?**
  - **e.g., all PBHCI clientele**

- **What time periods are meaningful?**
  - **How often should smoking be assessed?**
  - **What data do we have?**
    - **Is denominator visits or people? Both are OK!**
  - **How long was your "start-up" period?**
  - **When were program changes you might want to observe (e.g., CIHS staff trainings)?**

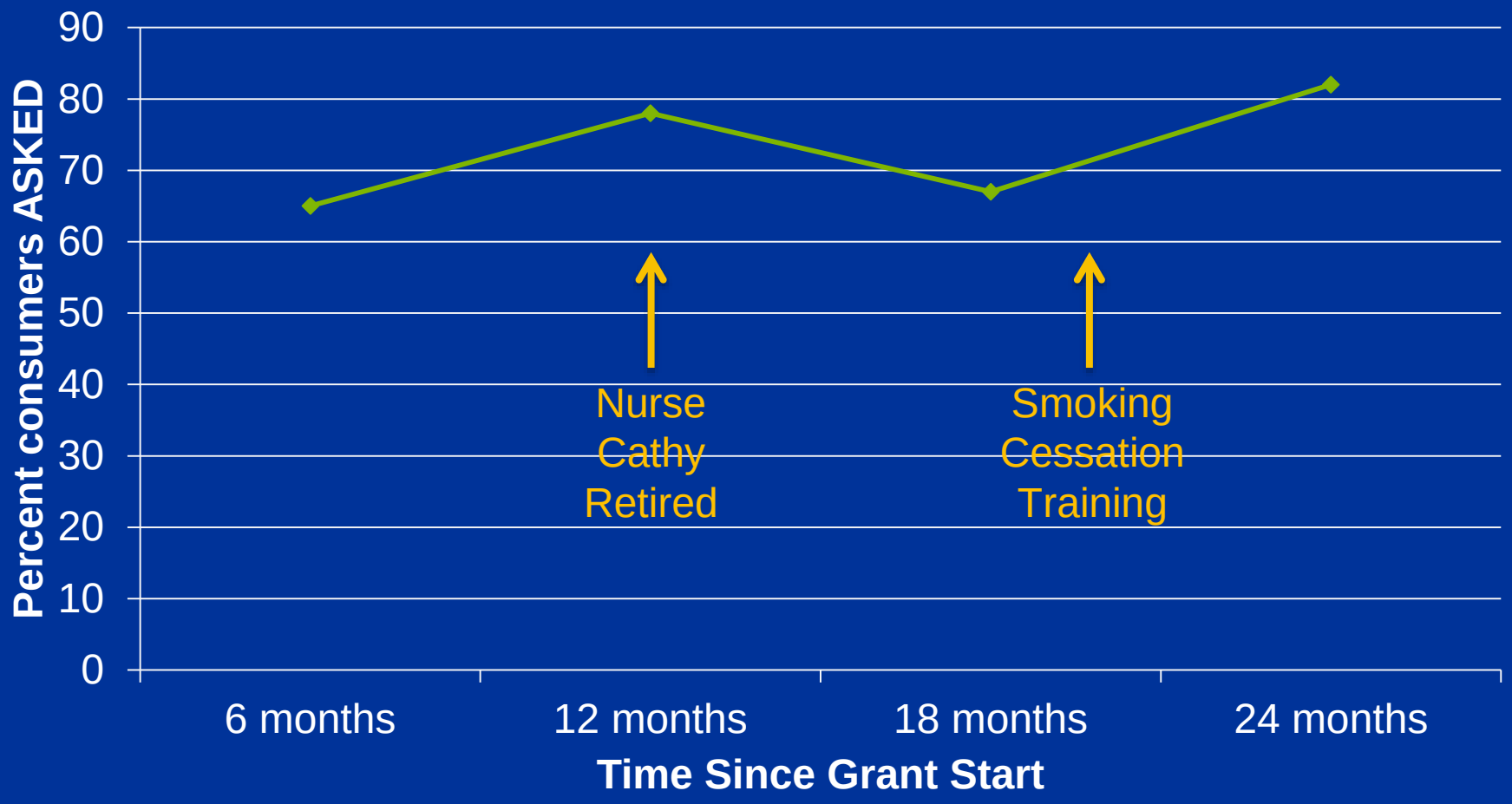
Consumers ASKED About Tobacco Use



Considerations

- What was your target?
- How often was it met?
- When were rates at their best? At their worst?
  - What was going on?
- Repeat these questions with your staff!
  - Use their insights to improve procedures and performance
- What can you tell your funders?

Consumers ASKED About Tobacco Use



But….

- **Program attendance is still lower than desired**
- **Consider targeting another A**

Clinical Practice Guidelines Recommend Using the 5 A's

- **Asking** all patients about smoking at every visit
- **Advising** all tobacco users to quit
- **Assessing** smokers' willingness to try to quit
- **Assisting** smokers to quit with treatment or referrals
- **Arranging** follow-up visits for those attempting to quit

ASSISTING To Quit: Analytic Design

- **Who is eligible?**
  - **e.g., all PBHCI consumers who smoke and are contemplation or preparation stages of change**
- **What's our most meaningful indicator?**
  - **Total participants? New group members?**
  - **How do you define a new group member?**
    - **Note that some people may rejoin after long gaps in attendance**

ASSISTING To Quit: Analytic Design

- **What time periods are meaningful?**
  - **How often is the program offered?**
  - **Can new members start at any time?**
  - **What data do we have?**
  - **How long was your "start-up" period**
  - **When were program changes you might want to observe (e.g., CIHS staff trainings)**

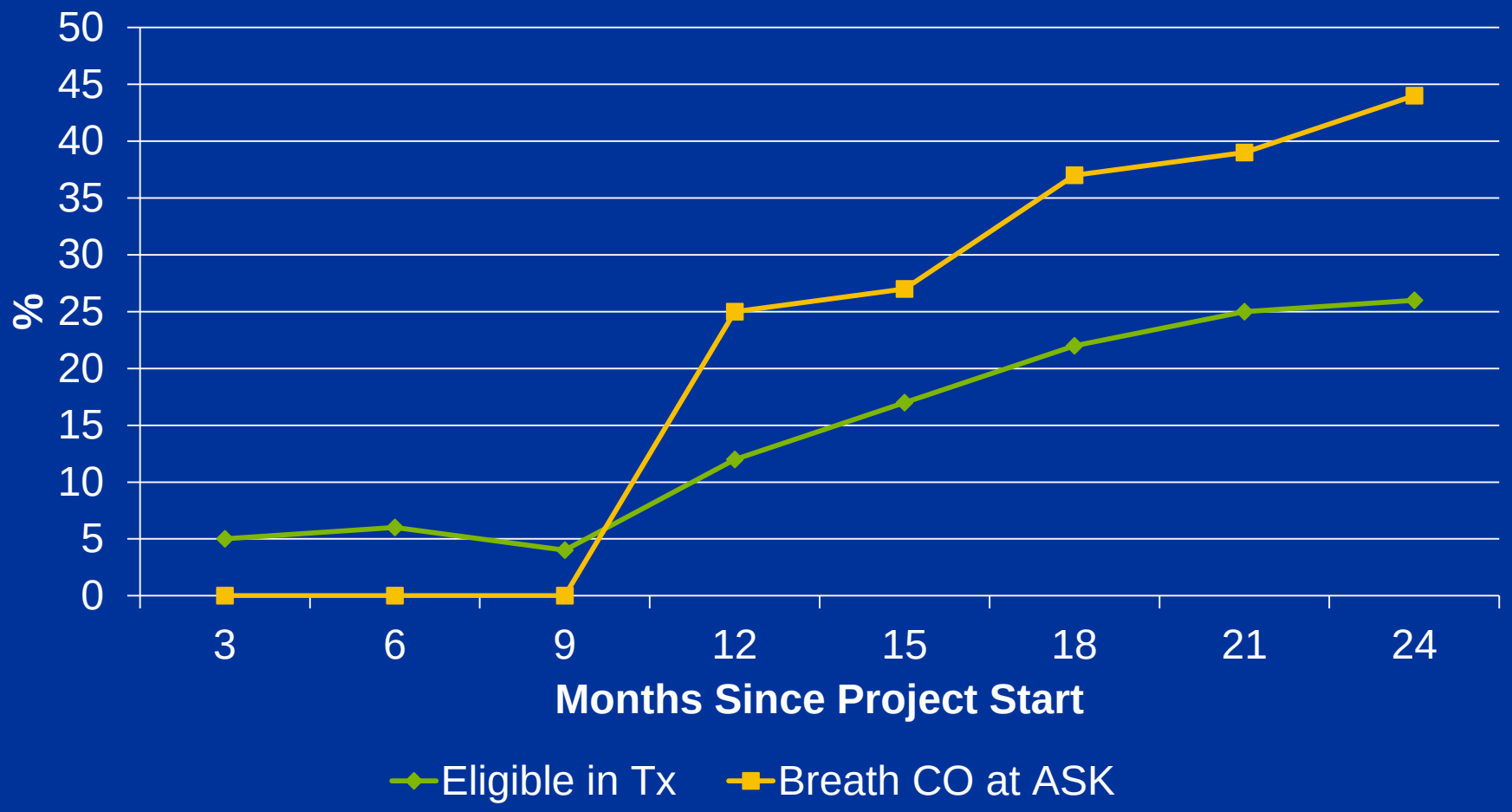
- ***Is there an established quality indicator that coincides with your program's needs?**

Consumers Receiving ASSISTANCE

Considerations

- What was your target?
- How often was it met?
- When were rates at their best? At their worst?
  - What was going on?
- Repeat these questions with your staff!
  - Their insights can help improve procedures and program performance
- Ideas for new analyses!

Consumers Receiving ASSISTANCE



Poll Questions

QUESTIONS?

Thank You!

Feel free to follow up with any questions:

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